

System And Method For Location-Finding Using Communication Signals

CROSS REFERENCE TO RELATED APPLICATIONS

DP [0001] This application is related to co-pending application titled, "System And Method For Inverse Multilateration," (Attorney Docket No. 46417.001028) filed concurrently herewith.

U.S. Patent Application Serial No.
10/814,650

FIELD OF THE INVENTION

[0002] A system and method for determining location by using modulated signals, including code division multiple access (CDMA) and time division multiple access (TDMA) wireless communication signals, to complement or replace global positioning system (GPS) signals is disclosed.

BACKGROUND OF THE INVENTION

[0003] The ability to accurately determine one's location has long been a sought after goal. To that end, location determining systems have been developed. For example, GPS and other systems can be used to determine location.

One drawback associated with GPS is that, in some locations, reception of the required satellite signals is poor. Furthermore, GPS requires relatively expensive satellites and precision timing (usually with atomic clocks).

[0004] Other drawbacks of GPS systems are that they can experience geometric dilution of precision (GDOP). For example, GDOP can arise from errors propagated through the satellite signal transmission and through round-off errors in calculation.

[0005] In addition, the process of searching for and acquiring GPS signals, reading the ephemeris data for a multiplicity of satellites and computing the